

Appl. No. 10/707,970
Response Dated February 9, 2006
Reply to Office Action Dated November 10, 2005

REMARKS/ARGUMENTS

Please reconsider the application in view of the above amendments and the following remarks. Claims 1-46 remain in this application. Claims 37-43 have been cancelled as non-elected claims.

Restriction/Election

The Examiner requested restriction of the claims under 35 U.S.C. §121 for the following:

- I. Claims 1-36 and 44-46 drawn to a product classified in class 175, subclass 40.
- II. Claims 27-43 drawn to a method, classified in class 340, subclass 853.1.

Applicant confirms the election with traverse of the Group I claims and withdrawal of the non-elected claims in Group II.

Claim Objections

The Examiner indicated that Claims 7, 15, 25, and 28-36 were objected to for various informalities. Applicant has amended claims 7, 15, 25, 28 and 33 to resolve these issues. It is believed that the current claims obviate these claim objections. No new matter has been added by way of these amendments.

Interview Summary

On February 9, 2006, Applicant's representatives (Jennie Salazar, Qingyan He and John Lovell) held a teleconference with Examiners (William P. Neuder and Nicole Coy) to review the objections and related art. The substance of the interview is set forth below. No agreement was made concerning the case during this interview.

Claims 1, 22, 28 and 44 have been amended herein to provide further clarity. Support for these amendments concerning the gap are found, for example, at Fig. 3 and paragraphs [0045]

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and [0049]. For the reasons set forth below, Applicant respectfully submits that the current claims demonstrate novelty and non-obviousness over the art of record.

Rejection(s) under 35 U.S.C § 102

Claims 1-4, 6, 7, 10, 12-18, 21-24, 28-30 and 44-46 stand rejected under 35 U.S.C. § 102 as being anticipated by Peter. This rejection is respectfully traversed.

The claims recite (*inter alia*) a non-conductive insulation molding extending across the gap. As described in the specification, “electromagnetic telemetry systems incorporating gaps have been vulnerable to leakage of drilling fluids” and “wellbore fluids tend to leak into the gap and between adjacent drill collars”. *See Specification, paragraph [0009]*. As further described in the specification, insulation molding (see, e.g., 410 in Fig. 3) is used to establish a hydraulic seal to minimize resistance loss and/or prevent exposure of moisture or water to the electromagnetic communication unit. *See, e.g.; Specification, paragraph [0049]*. No such insulation molding is disclosed by the art of record.

Peter teaches an insulative gap sub assembly incorporating upper and lower subs having an insulated connection. As shown in Fig. 3, Peter teaches that upper gap sub 34 and sub 36 are provided with a unique insulated interconnection (see col. 4, lines 32-39), and that the upper sub 34 is a metallic, conductive member with an insulative coating upon its entire inner and outer radial surfaces (see col. 3, lines 28-33).

Peter fails to provide a non-conductive insulation molding extending across the gap. Peter fails to appreciate the problem of leakage or the solution of such an insulation molding. In fact, Peter teaches away from such claimed molding by indicating that the use of molded ‘gap blocks’ of insulative material is undesirable. *See Peter Col. 1, lines 45-51*. Given the teaching

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of Peters, one of skill in the art would be deterred from using an insulative molding as recited in Applicant's claims.

In view of the above, the cited art fails to anticipate or render obvious the claimed invention. Applicant, therefore, requests withdrawal of the rejection under 35 U.S.C. § 102.

Rejection(s) under 35 U.S.C § 103

Claims 5, 8, 9, 11, 19, 25-27, 31, 32, and 35 stand rejected under 35 U.S.C. § 103 as being unpatentable over Peter alone or in combination with Logan or Wong. These rejections are respectfully traversed.

Applicant submits that the Examiner has failed to present a prima facie case of obviousness. As indicated above, Peter, the primary reference, fails to teach and/or teaches away from (*inter alia*) a non-conductive insulation molding extending across a gap.

Logan fails to provide the deficiencies of Peter. Logan discloses a subassembly electrical isolation connector for a drill rod. The subassembly of Logan provides a mud pressure compensating device 244 with a flexible diaphragm 248. There is no disclosure in Logan of a non-conductive insulation molding as recited in Applicant's claims. In fact Logan teaches away from such a molding by providing that passageways 342 of the pressure compensating device 244 permit mud which flows along the interior 240 of the subassembly to flow within the annular space 344. Logan, therefore, fails to support a finding of obviousness.

Wong fails to provide the deficiencies of Peter and/or Logan. Wong relates to a downhole electromagnetic logging into place tool. There is no disclosure in Wong of any kind of gap or insulative molding. Wong, therefore, fails to support a finding of obviousness of Applicant's claimed invention.

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Moreover, there is no motivation to combine the cited references. Peter seeks to provide simpler construction and teaches away from a gap sub with a longitudinal conductor mechanically supported within and along the length of the gap sub. One of skill in the art would, therefore, have no motivation to combine Peter with Logan. There would also be no motivation to combine a drill stem test tool as described in Wong with the drilling tools of Peter or Logan. Moreover, Peter specifically teaches away from the use of keys (*see Col. 1, lines 65-Col. 2, line 1*) as suggested by Logan (*see Fig. 1, reference number 44*) thereby indicating that the references are incompatible. Even if one were to attempt any such a combination(s), Applicant's claimed invention could not be achieved.

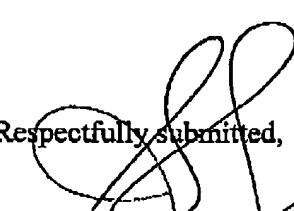
For at least these reasons, Applicant submits that the Examiner has failed to establish a *prima facie* case of obviousness under 35 U.S.C. § 103. Applicant, therefore, respectfully requests withdrawal of the rejection of the claims.

Applicant respectfully requests that a timely Notice of Allowance be issued in this case. Applicant believes this reply to be fully responsive to all outstanding issues and place this application in condition for allowance. If this belief is incorrect, or other issues arise, do not hesitate to contact the undersigned at the telephone number listed below.

This paper is submitted in response to the Office Action dated November 10, 2005, for which the three-month date for response is February 8, 2006. Please apply any charges not covered or any credits, to Deposit Account 19-0610 (Reference Number 20.2836).

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Respectfully submitted,

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